REMARKS

Claims 1-32 stand rejected and remain pending in the application. Claims 1 and 17 are amended herein. Claims 9 and 25 are cancelled. Applicant respectfully traverses the rejections and requests allowance of the claims.

35 U.S.C. § 102 Rejections

Claims 1, 4, 17, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,081,359 (Takehana). Applicant respectfully traverses the rejection in light of the following remarks.

Independent claim 1, directed to a communication system, is reproduced below for convenience:

> 1. A communication system to transfer user communications for a user, the communication system comprising:
>
> an optical network configured to transfer first user communications over a first optical wavelength and over a second optical wavelength;
>
> a first Point-of-Presence (POP) configured to receive the first user communications from a first user system, transfer the first user communications to the optical network over the first optical wavelength, and responsive to a problem with the transfer of the first user communications over the first optical wavelength, to transfer the first user communications to the optical network over the second optical wavelength instead of the first optical wavelength;
>
> a second POP configured to receive the first user communications from the optical network over the first optical wavelength and transfer the first user communications to a second user system, and responsive to the problem with the transfer of the first user communications over the first optical wavelength, to receive the first user communications from the optical network over the second optical wavelength instead of the first optical wavelength and transfer the first user communications to the second user system; and
>
> the optical network configured to transfer the first user communications over the first optical wavelength in a first physical path and transfer the first user communications over the second optical wavelength in a second physical path wherein the first physical path is geographically diverse from the second physical path.

Generally, Takehana discloses a series of terminal units 1-1~1-n connected to a transmitting system comprising a series of transponders 2-1~2-n connected to a wavelength

division multiplexer (WDM) 8 connected to an optical fiber amplifier 9 connected to a WDM coupler 17-1 (Takehana, col. 4, lines 9-34 and Figure 2). Terminal units 1-1~1-n are also connected to an auxiliary transponder 2-r which connects to WDM 8 (Takehana, col. 4, lines 9-34 and Figure 2). Additionally, Takehana discloses a receiving system with a configuration similar to the transmitting system (Takehana, col. 4, lines 35-50 and Figure 2). The receiving system is connected to terminal units 16-1~16-n.

Claim 1 now recites, in part, an optical network configured to transfer a communication over a *first optical wavelength in a first physical path*, and transfer the communication over a *second optical wavelength in a second physical path* wherein *the first physical path is geographically diverse from the second physical path.* Takehana does not disclose, teach, or suggest a first optical wavelength in a first physical path and a second optical wavelength in a second physical path wherein the first and second physical paths are geographically diverse as required by claim 1. Rather, Takehana discloses a single optical fiber transmission path 18 between the transmitting system and the receiving system that is not geographically diverse (Takehana, Figure 2).

In particular, Takehana discloses an auxiliary transponder 2-r within the transmitting system, which becomes energized upon the failure of one of transponders 2-1~2-n (Takehana, col. 4, lines 23-29). Auxiliary transponder 2-r has a wavelength λ_r different from the output wavelengths λ_1-λ_n of transponders 2-1~2-n (Takehana, col. 3, line 67 – col. 4, line 2). However, Takehana does not disclose wavelengths λ_1-λ_n and wavelength λ_r in geographically diverse physical paths as required by claim 1. In fact, the differences in wavelengths λ_1-λ_n and λ_r enable them to travel over a shared physical path.

Takehana discloses a single optical fiber transmission path 18, while claim 1 discloses a first optical wavelength in a first physical path and a second optical wavelength in a second physical path wherein the first and second physical paths are geographically diverse. Thus, Takehana fails to disclose, teach, or suggest all the elements of claim 1. Claim 1 is therefore allowable over Takehana.

Independent claim 17 now contains limitations similar to claim 1 and is allowable over Takehana for the same reasons as claim 1.

Claims 1, 9, 17, and 25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,136,583 (Oberg). Applicant respectfully traverses the rejection in light of the following remarks.

Claim 1 recites, in part, a POP configured to transfer a communication over a first optical wavelength, and *responsive to a problem with the transfer over the first optical wavelength*, to transfer the communication over a second optical wavelength. In contrast, Oberg discloses a signal output that is split into two light signals and transmitted on two separate optical fibers *every time a signal is transferred* (Oberg, col. 4, lines 29-32). In claim 1, the communication is only transferred over the second optical wavelength *responsive to a problem* in the first optical wavelength, not every time there is a transfer, as in Oberg.

Further, Oberg discloses switching to SDH protection fiber 37 in the event of a failure in working fiber 21 (Oberg, col. 5, lines 15-23 and Figure 3). However, *the switch is not made every time there is a failure in the working fiber* because the switch is not immediately made upon detection of a failure (Oberg, col. 5, lines 25-49). In some instances of a failure in working fiber 21, the system does not switch to SDH protection fiber 37. In claim 1, the communication is transferred over the second optical wavelength *in response to a problem* with the first optical wavelength. In Oberg, the sequence of events for a protection condition is not predetermined (Oberg, col. 5, lines 47-49) as required by claim 1.

Dependent claim 9 has been incorporated into independent claim 1, and dependent claim 25 has been incorporated into independent claim 17. Regarding claims 9 and 25, the Examiner asserts that Oberg, Figure 3 teaches "different fibers for the different wavelengths" (Page 3, item 3, of the Office Action). Applicant respectfully disagrees with this assertion and traverses the rejection in light of the following remarks.

Claim 1 now recites, in part, an optical network configured to transfer a communication over a *first optical wavelength in a first physical path*, and transfer the communication over a *second optical wavelength in a second physical path* wherein *the first physical path is geographically diverse from the second physical path*. Oberg does not disclose, teach, or suggest geographically diverse physical paths for different wavelengths.

In particular, Oberg does not disclose a first optical wavelength and a second optical wavelength. In fact, the light signals from the client systems in Oberg are combined into one

light signal by multiplexer 17, and then the signal output from multiplexer 17 "is split into two light signals having substantially the same power" (Oberg, col. 4, lines 27-32). These two redundant light signals are carried over working optical fiber 21 and protecting optical fiber 23 (Oberg, col. 4, lines 32-36 and Figure 3). Further, Oberg discloses switching to SDH protection fiber 37 in the event of a failure in the working fiber 21 (Oberg, col. 5, lines 15-23 and Figure 3). However, Oberg still does not disclose a second optical wavelength when the system switches to SDH protection fiber 37. Thus, Oberg does not disclose a first optical wavelength and a second optical wavelength as required by claim 1.

Based on the foregoing comments, Applicant contends that claim 1 is allowable in view of Takehana and in view of Oberg, and such indication is respectfully requested. Claim 17 contains limitations similar to claim 1 and is therefore allowable over the art of record for the same reasons as claim 1.

In addition, claims 2-16 depend from independent claim 1, and claims 18-32 depend from independent claim 17, thus incorporating the limitations of their corresponding independent claims. Therefore, Applicant asserts that claims 2-16 and 18-32 are allowable for at least the reasons given above in support of independent claims 1 and 17, and such indication is respectfully requested.

35 U.S.C. § 103 Rejections

Claims 2-3 and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehana. A discussion of this rejection is obviated in view of the discussion above distinguishing Takehana and Oberg.

Claims 5-8 and 21-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehana in view of U.S. Patent No. 7,099,578 B1 (Gerstel) and Oberg. A discussion of this rejection is obviated in view of the discussion above distinguishing Takehana and Oberg.

Claims 10-11, 13, 15, 26-27, 29, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehana in view of U.S. Patent No. 7,164,861 B2 (Takachio). A discussion of this rejection is obviated in view of the discussion above distinguishing Takehana and Oberg.

Claims 12, 14, 16, 28, 30, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takehana and Takachio and further in view of U.S. Patent No. 7,151,893 B2 (Hayashi). A discussion of this rejection is obviated in view of the discussion above distinguishing Takehana and Oberg.

CONCLUSION

Based on the above remarks, Applicant submits that the claims in their present form are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. Applicant thus respectfully requests allowance of the claims.

Applicant believes no fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

/Kyle J. Way/

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